



Process for aqueous HCl electrolysis with thin film electrodes

Description of Technology: The present invention relates to a process for the electrolysis of hydrogen chloride in aqueous solution, and more particularly, to reducing cell voltage at a given current density or enhancing current density in an electrolytic cell having thin film electrodes.

Patent Listing:

1. **US Patent No. 6,066,248**, Issued May 23, 2000, "Process for aqueous HCl electrolysis with thin film electrodes"

<http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F6066248>

Market Potential: Aqueous hydrogen chloride (HCl) or hydrochloric acid is a reaction byproduct of many manufacturing processes that use chlorine. For example, chlorine is used to manufacture polyvinylchloride, isocyanates, and chlorinated hydrocarbons/fluorinated hydrocarbons, with hydrogen chloride as a byproduct of these processes.

Because supply so exceeds demand, byproduct hydrogen chloride or hydrochloric acid often cannot be sold or used, even after careful purification. Shipment over long distances is not economically feasible. Discharge of the acid or chloride ions into waste water streams is environmentally unsound. Recovery and feedback of the chlorine to the manufacturing process is the most desirable route for handling the HCl byproduct. A number of commercial processes have been developed to convert HCl into usable chlorine gas.

Benefits:

- Converts HCl into usable chlorine gas

Applications:

- Electrolysis of hydrogen chloride in aqueous solution

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